Trend Study 5-3-01

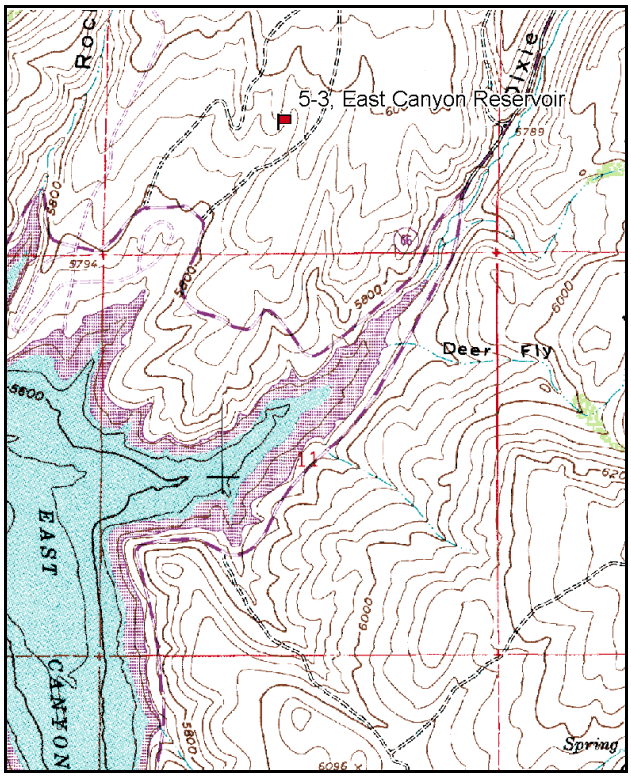
Study site name: East Canyon Reservoir . Vegetation type: Big Sagebrush .

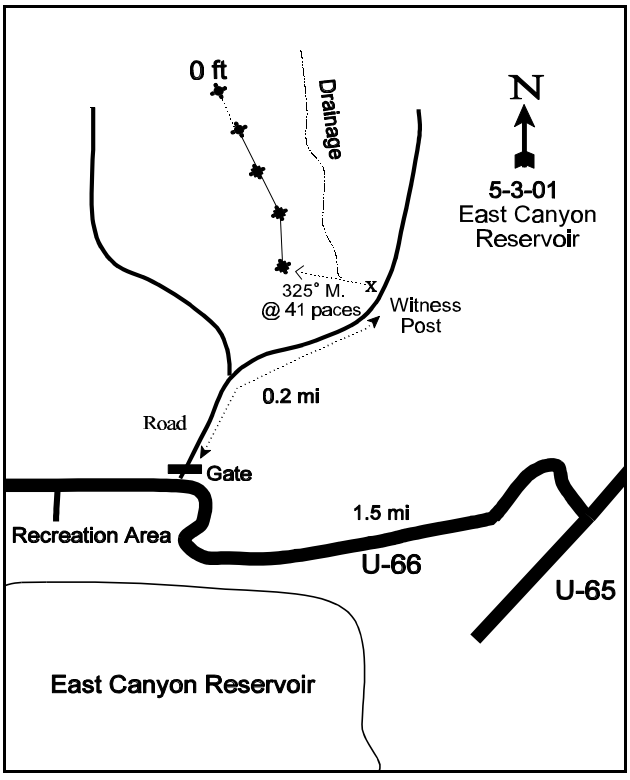
Compass bearing: frequency baseline 186 degrees magnetic.

Frequency belt placement: Line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

LOCATION DESCRIPTION

Begin to note mileage at the junction of U-65 and U-66. Proceed towards Porterville on U-66 1.15 miles to a gate on the right. There should be a picnic/campground area on left side of road. Proceed through gate on foot (gate locked), travel 0.2 miles to the witness post on the left hand side of the road. From the witness post the 400-foot baseline stake is 41 paces at 325 degrees magnetic. The 0-foot baseline stake is 400 feet to the northwest. The 0-foot stake of the baseline is marked by browse tab #7968. The baseline runs 186 degrees. The baseline doglegs at the 300-foot baseline stake and runs 232 degrees magnetic.





Map Name: East Canyon Reservoir Diagrammatic Sketch

Township 2N , Range 3E , Section 2 UTM 4530848 N 451110 E

DISCUSSION

Trend Study No. 5-3

The East Canyon Reservoir study is located immediately north of East Canyon Reservoir. Slope varies from 20-30% with an east, southeast aspect and elevation of approximately 5,800 feet. The range type is mountain big sagebrush-grass in association with a substantial amount of antelope bitterbrush. These two shrubs comprise the key management species. Deer pellet groups were abundant in 1996, with the level of hedging on the key browse species having been moderate to heavy. The presence of three winter-killed deer in 1990, provides some evidence of the areas attraction to deer. A pellet group transect read on site in 2001, estimated 79 deer days use/acre (195 ddu/ha). Sheep sign was also abundant and a flock of sheep was on site one week prior to the 2001 reading on June 20th. Sage grouse pellets were also encountered within the pellet group transect.

Soil classification for this site is similar to that described for study number 5-2, Tucson Hollow. "Manila Loam" is a soil with excellent potential for growth and forage production. It's disadvantages are a rather high potential for erosion and subsurface slippage. Although only slowly permeable to water, the Manila soil volume shrinks and swells greatly in response to setting or drying (Carley et al. 1980). Soil at the site has a loam texture with a slightly acidic soil reaction (6.3 pH). Effective rooting depth was estimated at 11 inches with an average temperature of 69°F at this depth. Litter and vegetation cover are abundant and provide sufficient protective ground cover to prevent most erosion. The erosion condition class was determined as stable in 2001.

Mountain big sagebrush and antelope bitterbrush are the key browse species. Mountain big sagebrush is moderately hedged with good vigor and lower percent decadency than reported in 1984 and 1990. Sagebrush density has remained relatively stable since 1984, averaging about 1,800 plants/acre. Reproduction is marginal with few seedlings encountered in 1996 and no seedlings found in 2001. Young plants accounted for 15% of the population in 1996, declining to 6% in 2001. The poor recruitment is mostly due to the dense cheatgrass and bulbous bluegrass cover.

Antelope bitterbrush has a low density of only about 100 plants/acre. Due to their low numbers and high preference, use has been heavy during all sampling periods. Recruitment is also poor with no seedlings or young plants encountered in 1996 or 2001. Oregon grape was encountered for the first time in 1996. This is due to the greatly increased sample size used which more accurately reflects browse densities. Most plants were classified as mature, with some young and seedlings included. Other browse species occurring in low densities include prickly pear cactus, white rubber rabbitbrush, stickyleaf low rabbitbrush, Saskatoon serviceberry, and Wood's rose.

The herbaceous understory is abundant and diverse. However, the composition is dominated by weedy species. Grass cover is dominated by annual and low value perennials including cheatgrass, Japanese brome, and bulbous bluegrass. Other perennial species include Great Basin wildrye, Sandberg bluegrass, intermediate wheatgrass, and Kentucky bluegrass. Forbs are very diverse with few species commonly occurring. Many species are small annuals that add very little to the herbaceous cover. Forb composition includes few desirable species, certainly far less than what this site is capable of.

1984 APPARENT TREND ASSESSMENT

Soil appears to be stable, even though there is limited erosion in some of the shrub interspaces. The degree of soil loss, however is not great enough to explain or have a significant bearing on current vegetative conditions. Vegetative trend appears to be in a state of decline for the key browse species. The herbaceous understory is poor.

1990 TREND ASSESSMENT

Compared to the heavily hedged, declining condition of the key browse species reported for this site in 1984, there have been no significant changes in the density of big sagebrush or bitterbrush. Although the percentage of decadent plants, especially sagebrush, is still high, it is lower than in 1984. Bitterbrush retains a heavily hedged growth form, while the sagebrush are more moderately browsed growth form. Young plants make up a healthy percentage of both populations. Sagebrush canopy cover averages 11%. Distribution of perennial grasses was very patchy in 1984. Although annual species remain prevalent, the frequency of perennial grasses, mostly Sandberg bluegrass, have increased significantly. There is thick vegetative and litter cover provided by the herbaceous understory. Soil erosion is minimal.

TREND ASSESSMENT
soil - stable (3)
browse - stable (3)
herbaceous understory - stable (3)

1996 TREND ASSESSMENT

Soil trend is slightly upward with a decrease in percent bare ground cover since 1990. Vegetative and litter cover are abundant which helps reduce erosion potential. Density of the key browse species, mountain big sagebrush and antelope bitterbrush, have stayed relatively stable over the years. Utilization has remained nearly the same while percent decadency has decreased. This leads to a slightly upward browse trend. Although sum of nested frequency for grasses and forbs has increased since 1990, most species present are undesirable. Cheatgrass and bulbous bluegrass are the dominate herbaceous species at this time and will likely continue to be in the future.

TREND ASSESSMENT
soil - slightly upward (4)
browse - slightly upward (4)
herbaceous understory - stable, but poor (3)

2001 TREND ASSESSMENT

Trend for soil is stable. Percent bare ground increased and litter cover declined. However, herbaceous vegetation cover increased 19% and the ratio of nested frequency for protective ground cover to bare ground increased slightly. In addition, the soil erosion condition class was determined as stable. Trend for browse is stable. Density of the key species, mountain big sagebrush and antelope bitterbrush are similar to 1996. Use is similar and vigor is normal on most plants. Recruitment is poor but percent decadence of both species is low. Trend for the herbaceous understory is stable but the composition is poor. Sum of nested frequency for perennial grasses has increased, while that of perennial forbs has declined. Sum of nested frequency for cheatgrass declined significantly, whereas frequency of the low value perennial, bulbous blue grass, nearly doubled. More preferred perennial grasses are not abundant but intermediate wheatgrass and Kentucky bluegrass did increase significantly in nested frequency. Sum of nested frequency for perennial forbs declined 47%, while cover dropped more than fourfold. There are a few preferred species with most of the forbs being weedy increasers.

TREND ASSESSMENT
soil - stable (3)
browse - stable (3)
herbaceous understory - stable (3)

HERBACEOUS TRENDS --
Herd unit 05 , Study no: 3

Type	Species	Nested Frequency				Quadrat Frequency				Average Cover %	
		'84	'90	'96	'01	'84	'90	'96	'01	'96	'01
G	Agropyron intermedium	a7	a10	a9	b22	2	3	3	10	.18	.91
G	Agropyron smithii	-	-	-	4	-	-	-	2	-	.53
G	Agropyron spicatum	a3	a18	b48	a21	1	8	17	9	2.04	.34
G	Bromus japonicus (a)	-	-	41	62	-	-	19	25	.39	.32
G	Bromus tectorum (a)	-	-	b283	a135	-	-	83	48	7.92	3.98
G	Carex spp.	-	-	3	7	-	-	1	2	.03	.03
G	Elymus cinereus	a-	a-	b29	b24	-	-	10	8	2.53	3.04
G	Poa bulbosa	a-	b41	c149	d267	-	17	45	80	7.90	26.96
G	Poa pratensis	ab19	a3	a6	b50	7	2	3	15	.04	2.20
G	Poa secunda	a21	b59	a27	ab34	8	23	11	13	.58	.79
G	Vulpia octoflora (a)	-	-	6	1	-	-	2	1	.53	.00
Total for Annual Grasses		0	0	330	198	0	0	104	74	8.84	4.31
Total for Perennial Grasses		50	131	271	429	18	53	90	139	13.33	34.84
Total for Grasses		50	131	601	627	18	53	194	213	22.17	39.16
F	Achillea millefolium	a26	ab35	c62	bc53	9	15	28	25	1.19	.86
F	Agoseris glauca	-	-	-	1	-	-	-	1	-	.00
F	Alyssum alyssoides (a)	-	-	4	7	-	-	2	3	.01	.04
F	Allium spp.	-	-	1	3	-	-	1	1	.00	.00
F	Arabis spp.	-	-	4	-	-	-	2	-	.03	-
F	Artemisia ludoviciana	c51	bc45	a17	ab26	17	17	6	10	.51	.73
F	Aster chilensis	a38	a36	b89	b89	14	14	35	34	3.00	.69
F	Astragalus spp.	ab5	a-	b12	a-	2	-	7	-	.52	-
F	Cirsium undulatum	ab17	ab27	b41	a9	11	14	18	4	1.10	.10
F	Collomia linearis (a)	-	-	a12	b30	-	-	6	15	.03	.10
F	Collinsia parviflora (a)	-	-	a3	b21	-	-	1	11	.00	.08
F	Cruciferae	-	4	-	-	-	2	-	-	-	-
F	Descurainia pinnata (a)	-	-	-	6	-	-	-	3	-	.04
F	Draba spp. (a)	-	-	a-	b54	-	-	-	21	-	.15
F	Epilobium brachycarpum (a)	-	-	-	8	-	-	-	3	-	.01
F	Erodium cicutarium (a)	-	-	22	33	-	-	8	13	.16	.80
F	Erigeron pumilus	b54	b51	c125	a2	25	24	53	1	3.91	.00
F	Gayophytum ramosissimum(a)	-	-	b43	a-	-	-	20	-	.15	-
F	Haplopappus acaulis	-	-	1	-	-	-	1	-	.00	-
F	Hedysarum boreale	-	-	2	1	-	-	1	1	.15	.00

Type	Species	Nested Frequency				Quadrat Frequency				Average Cover %	
		'84	'90	'96	'01	'84	'90	'96	'01	'96	'01
F	Holosteum umbellatum (a)	-	-	$_{a}$9	$_{b}$78	-	-	5	37	.02	.31
F	Lappula occidentalis (a)	-	-	6	-	-	-	2	-	.03	-
F	Lactuca serriola	-	1	1	-	-	1	1	-	.00	-
F	Lithospermum ruderale	$_{b}$24	$_{b}$31	$_{b}$16	$_{a}$1	13	17	12	1	1.06	.00
F	Lomatium spp.	-	-	2	4	-	-	1	2	.00	.01
F	Lupinus argenteus	$_{a}$-	$_{a}$-	$_{b}$11	$_{b}$22	-	-	5	10	.10	.35
F	Microsteris gracilis (a)	-	-	-	2	-	-	-	1	-	.00
F	Oenothera caespitosa	3	2	3	2	2	2	1	1	.15	.00
F	Polygonum douglasii (a)	-	-	$_{b}$35	$_{a}$14	-	-	17	7	.08	.03
F	Ranunculus testiculatus (a)	-	-	-	3	-	-	-	1	-	.00
F	Sphaeralcea coccinea	16	13	15	9	6	5	8	5	.55	.05
F	Taraxacum officinale	-	-	2	-	-	-	1	-	.00	-
F	Tragopogon dubius	19	18	19	4	8	9	11	2	.25	.01
F	Viguiera multiflora	$_{a}$-	$_{b}$17	$_{ab}$7	$_{a}$1	-	8	3	1	.04	.00
F	Zigadenus paniculatus	-	-	-	2	-	-	-	2	-	.04
Total for Annual Forbs		0	0	134	256	0	0	61	115	0.50	1.59
Total for Perennial Forbs		253	280	430	229	107	128	195	101	12.63	2.88
Total for Forbs		253	280	564	485	107	128	256	216	13.13	4.47

Values with different subscript letters are significantly different at alpha = 0.10 (annuals excluded)

BROWSE TRENDS --
Herd unit 05 , Study no: 3

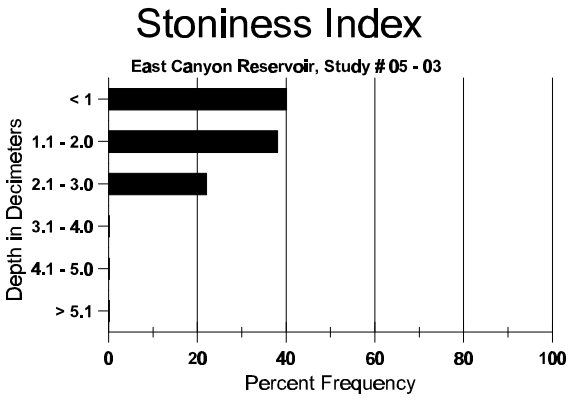
Type	Species	Strip Frequency		Average Cover %	
		'96	'01	'96	'01
B	Artemisia tridentata vaseyana	64	53	14.37	18.14
B	Chrysothamnus nauseosus albicaulis	1	1	-	-
B	Chrysothamnus viscidiflorus viscidiflorus	12	13	.33	.18
B	Mahonia repens	22	21	.83	.45
B	Opuntia spp.	6	5	.03	-
B	Purshia tridentata	4	5	2.40	1.94
Total for Browse		109	98	17.98	20.71

BASIC COVER --
Herd unit 05 , Study no: 3

Cover Type	Nested Frequency		Average Cover %			
	'96	'01	'84	'90	'96	'01
Vegetation	373	374	3.50	6.00	50.76	60.62
Rock	148	129	5.25	6.75	5.53	3.97
Pavement	120	149	.50	2.00	1.27	1.48
Litter	398	369	79.50	71.00	61.27	49.72
Cryptogams	11	46	.50	0	.13	.95
Bare Ground	138	134	10.75	14.25	4.19	8.60

SOIL ANALYSIS DATA --
Herd Unit 05, Study no: 03, East Canyon Reservoir

Effective rooting depth (in)	Temp °F (depth)	PH	%sand	%silt	%clay	%0M	PPM P	PPM K	dS/m
10.8	69.2 (11.4)	6.3	48.7	28.0	23.3	2.4	20.6	163.2	.4



PELLET GROUP FREQUENCY --
Herd unit 05 , Study no: 3

Type	Quadrat Frequency		Pellet Transect	
	'96	'01	Pellet Groups per Acre ⁄01	Days Use per Acre (ha) ⁄01
Sheep	-	4	200	N/A
Grouse	-	1	17	N/A
Elk	5	-	-	-
Deer	32	26	1027	79 (195)
Cattle	-	-	9	1 (2)

BROWSE CHARACTERISTICS --
Herd unit 05 , Study no: 3

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Amelanchier alnifolia																		
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0	37	60	0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0	51	55	0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	00%	00%	00%	
'90	00%	00%	00%	
'96	00%	00%	00%	
'01	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)			Dec:	
	'84	0		-
	'90	0		-
	'96	0		-
	'01	0		-

Artemisia tridentata vaseyana																		
S	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	12	-	-	-	-	-	-	-	-	12	-	-	-	400			12
	96	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
Y	84	-	2	-	-	-	-	-	-	-	2	-	-	-	66			2
	90	2	-	-	-	-	-	-	-	-	2	-	-	-	66			2
	96	13	1	-	-	-	-	-	-	-	14	-	-	-	280			14
	01	4	-	-	1	-	-	-	-	-	5	-	-	-	100			5
M	84	-	11	6	-	-	-	-	-	-	17	-	-	-	566	25	24	17
	90	5	11	-	-	-	-	-	-	-	16	-	-	-	533	29	38	16
	96	39	19	1	1	-	-	1	-	-	58	-	3	-	1220	30	45	61
	01	39	13	-	3	-	1	-	-	-	56	-	-	-	1120	32	47	56
D	84	-	11	29	-	1	-	-	-	-	39	-	-	2	1366			41
	90	9	12	13	-	-	-	-	-	-	26	-	-	8	1133			34
	96	8	10	1	1	-	-	-	-	-	15	-	1	4	400			20
	01	12	5	1	-	-	-	-	-	-	13	-	-	5	360			18
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	660			33
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	460			23

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	42%	58%	03%	-13%
'90	44%	25%	15%	+ 9%
'96	32%	02%	08%	-17%
'01	23%	03%	06%	

Total Plants/Acre (excluding Dead & Seedlings)			Dec:	
	'84	1998		68%
	'90	1732		65%
	'96	1900		21%
	'01	1580		23%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Chrysothamnus nauseosus albicaulis																		
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	90	-	1	-	-	-	-	-	-	-	1	-	-	-	33	26	28	1
	96	1	-	-	-	-	-	-	-	-	1	-	-	-	20	-	-	1
	01	1	-	-	-	-	-	-	-	-	1	-	-	-	20	-	-	1
D	84	-	-	1	-	-	-	-	-	-	1	-	-	-	33			1
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	00%	100%	00%	+ 0%
'90	100%	00%	00%	-39%
'96	00%	00%	00%	+ 0%
'01	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
'84	33	Dec:		100%
'90	33			0%
'96	20			0%
'01	20			0%

Chrysothamnus viscidiflorus viscidiflorus																		
Y	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	90	-	1	-	-	-	-	-	-	-	-	-	1	-	33	14	15	1
	96	14	-	-	1	-	-	-	-	-	14	-	1	-	300	15	27	15
	01	15	-	-	-	-	-	-	-	-	15	-	-	-	300	12	17	15
D	84	1	-	-	-	-	-	-	-	-	-	-	1	-	33			1
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	00%	00%	100%	+ 0%
'90	100%	00%	100%	+90%
'96	00%	00%	06%	+ 0%
'01	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
'84	33	Dec:		100%
'90	33			0%
'96	320			0%
'01	320			6%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Mahonia repens																		
S	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	2	-	-	-	-	-	-	-	-	2	-	-	-	40			2
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
Y	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	32	-	-	-	-	-	-	-	-	32	-	-	-	640			32
	01	28	-	-	-	-	-	3	-	-	31	-	-	-	620			31
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	107	-	-	9	-	-	-	-	-	116	-	-	-	2320	5	6	116
	01	167	-	-	6	-	-	19	-	-	192	-	-	-	3840	3	4	192
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	00%	00%	00%	
'90	00%	00%	00%	
'96	00%	00%	00%	+34%
'01	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'84	0	Dec:	-
	'90	0		-
	'96	2960		-
	'01	4460		-

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Opuntia spp.																		
Y	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	6	-	-	-	-	-	-	-	-	6	-	-	-	120			6
	01	-	-	-	1	-	-	-	-	-	1	-	-	-	20			1
M	84	2	-	-	-	-	-	-	-	-	2	-	-	-	66	10	13	2
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	13	-	-	-	-	-	-	-	-	12	-	1	-	260	5	15	13
	01	8	-	-	-	-	-	-	-	-	8	-	-	-	160	5	14	8
D	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	2	-	-	-	-	-	-	-	-	2	-	-	-	66			2
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	40			2
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	00%	00%	00%	+ 0%
'90	00%	00%	00%	+83%
'96	00%	00%	05%	-53%
'01	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'84	66	Dec:	0%
	'90	66		100%
	'96	380		0%
	'01	180		0%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Purshia tridentata																		
Y	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	2	-	1	-	-	-	-	3	-	-	-	100			3
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	84	-	1	1	-	-	-	-	-	-	2	-	-	-	66	20	9	2
	90	-	1	2	-	-	-	-	-	-	3	-	-	-	100	35	47	3
	96	-	-	1	-	-	5	-	-	-	6	-	-	-	120	35	80	6
	01	-	-	-	-	-	4	-	-	-	4	-	-	-	80	33	61	4
D	84	-	-	4	-	-	-	-	-	-	4	-	-	-	133			4
	90	-	-	2	-	-	-	-	-	-	2	-	-	-	66			2
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	-	-	-	-	1	-	-	-	-	1	-	-	-	20			1
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	17%	83%	00%	+25%
'90	25%	75%	00%	-55%
'96	00%	100%	00%	-17%
'01	20%	80%	00%	

Total Plants/Acre (excluding Dead & Seedlings)					
	'84	199	Dec:		67%
	'90	266			25%
	'96	120			0%
	'01	100			20%

Rosa woodsii																		
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0	24	17	0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	00%	00%	00%	
'90	00%	00%	00%	
'96	00%	00%	00%	
'01	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'84	0	Dec:	-
	'90	0		-
	'96	0		-
	'01	0		-